MICHIGAN DEPARTMENT OF HEALTH & HUMAN SERVICES

Michigan Regional Trauma Report

Region 3

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EXECUTIVE SUMMARY

OVERVIEW OF REGIONAL DEMOGRAPHICS

Region 3 is a highly diverse area, ranging from medium sized cities and highly fertile agricultural areas, to very sparsely populated areas of undeveloped woodlands. The fourteen counties that make up Region 3 are: Alcona, Arenac, Bay, Genesee, Gladwin, Huron, Iosco, Lapeer, Midland, Ogemaw, Oscoda, Saginaw, Sanilac, and Tuscola. There are four significant urban areas (Flint, Saginaw, Bay City, and Midland), two international airports, two international seaports, and a lengthy shoreline that shares an international border with Canada. The region is home to the Dow Chemical Company, the Great Lakes Loons minor league baseball team, and several colleges and universities, including Saginaw Valley State and Northwood. The "Sunrise Side" also hosts many festivals year round such as Tall Ships, the Bavarian Festival, and the Bay City River Roar. The region also has a host of other tourist attractions that bring an influx of participants, particularly in the summer months.

The region has 24 hospitals, 11 Medical Control Authorities (MCAs), 126 Emergency Medical Service (EMS) agencies, 10 health departments, and the federally recognized Chippewa Tribe.

SYSTEM GOVERNANCE

The Region 3 trauma network is governed and administered by the RTN Board for the purpose of approving or denying any or all components of the regional trauma plan. Each participating MCA, through its own governing body, appointed one member to the RTN Board; there are as many members as there are participating MCAs in Region 3.

The Regional Trauma Advisory Council (RTAC) is established to formulate the regional trauma plan based on direction from the Regional Trauma Network, and Regional Trauma Steering Committee recommendations. The Region 3 Trauma Advisory Council is composed of trauma care participants within Region 3. Members of the RTAC have been designated in writing by the appointing MCA, hospital, EMS agency, or other organizations.

REGIONAL LEADERSHIP

The stakeholder representatives within Region 3 are voluntary positions. Hospitals, EMS agencies, Medical Control Authorities and other stakeholders each select representatives to participate in regional activities. The officers of the inaugural Region 3 Regional Trauma Network Board, Regional Trauma Steering Committee, Regional Trauma Advisory Council, and Professional Standards and Review Organization are listed below:

Regional Trauma Network Board (RTN) Officers

Chair: Eric Snidersich-MCA Manager, Saginaw/Tuscola Counties
Vice-Chair: Dr. Brad Blaker-MCA Medical Director, Lapeer County MCA
Secretary: Bruce Trevithick-MCA Executive Director, Genesee County MCA

Regional Trauma Steering Committee (RTSC) Officers

Co-Chairs: Dr. Michael McCann-Trauma Director, Hurley Medical Center
Dr. Noel Wagner-MCA Medical Director, Saginaw/Tuscola Counties
Secretary: Dr. Sam Kais-Trauma Surgeon, St. Mary's of Michigan-Saginaw

Regional Trauma Advisory Council (RTAC) Officers

Co-Chairs: Dr. Sujal Patel-Trauma Director, Covenant Medical Center
Dr. Danny Greig-MCA Medical Director, Midland/Gladwin Counties
Secretary: Deb Falkenberg-Trauma Program Manager, Covenant Medical Center

Regional Professional Standards Review Organization (RPSRO) Officers

Co-Chairs: Dr. Brian Shapiro, Trauma Director, Genesys Regional Medical Center
Dr. Brad Blaker-MCA Medical Director, Lapeer County MCA
Secretary: Deb Falkenberg-Trauma Program Manager, Covenant Medical Center

2014 SYSTEM ACCOMPLISHMENTS

During the initial regional organizational process the Region 3 bylaws were developed by the stakeholders. This was followed by the development of the regional work plan and SMART objectives (Specific, Measurable, Attainable, Relevant and Time-bound), with their subsequent submission to MDHHS for approval. The Region 3 Trauma, Triage, Transport and Destination Subcommittee members have developed a draft trauma triage protocol that has been finalized. It will be submitted to the RTAC on January 27, 2015 for approval. The Trauma Education and Injury Prevention Subcommittees are collaborating with the Trauma Education and Injury Prevention subcommittees from the other Michigan trauma regions on a needs assessment.

Region 3 boards and committees continue to meet quarterly (at a minimum) to review the work plan and make adjustments based on the needs of the region. The Level I and II Trauma Centers have provided resources for potential in-state Level III and IV facilities to assist them in the development of their trauma facility infrastructure. Fourteen out of twenty-one Region 3 hospitals (including the Critical Access Facilities) are reporting trauma data to the state trauma registry.

Region 3 trauma registrars have participated in an initial MDHHS sponsored ImageTrend trauma registry training in Lansing. This was followed by a second registry training session within Region 3, sponsored by the regional stakeholders.

MAJOR ACCOMPLISHMENTS

- Development and organization of the regional trauma system.
- Development of the Region 3 bylaws with stakeholder consensus followed by the creation of the regional trauma application and regional work plan.
- Formation of the network board, advisory council, and committees.
- Designation of the Region 3 ACS Verified Level I, II, and III Trauma Centers
- Trauma registry training.
- RPSRO formed and meeting quarterly.

Current List of Region 3 American College of Surgeons Verified and Designated Facilities

Facility	Level Adult	Level Ped	Location	Designated	Date	Pediatric
Hurley Medical Center	I	II	Flint	Yes	1/15	1/15
Genesys	II		Flint	Yes	11/14	
McLaren Lapeer	II		Lapeer	Yes	1/15	
Covenant Medical Center	II	II	Saginaw	Yes	11/14	1/15
MidMichigan Medical Center	II		Midland	Yes	11/14	
St. Marys of Michigan	II		Saginaw	Yes	3/15	
McLaren Flint	III		Flint	Yes	11/14	

Region 3 Facilities Planning Michigan Verification and Designation

Hospital	Location	Registry Reporting
Caro Community	Caro, MI	No
Deckerville Community	Deckerville, MI	Yes
Harbor Beach Community	Harbor Beach, MI	Yes
Hills & Dales General	Cass City, MI	Yes
Huron Medical Center	Bad Axe, MI	Yes
Marlette Regional	Marlette, MI	Yes
McKenzie Memorial	Sandusky, MI	Yes
McLaren Bay Region	Bay City, MI	No
MidMichigan-Gladwin	Gladwin, MI	No
St. Mary's of Michigan-Standish	Standish, MI	No
Scheurer Hospital	Pigeon, MI	No
St. Joseph's Health System	Tawas City, MI	No
West Branch Regional	West Branch, MI	No

In 2015 the region will begin to prepare potential in-state Level III and IV medical facilities for the verification and designation process tentatively scheduled to begin in late 2015 and early 2016. Enrollment and participation in the state sponsored Trauma Program Manager Course, scheduled for August 2015, will be encouraged. Region 3 will continue to encourage trauma data entry into the State trauma registry, as well as assist current data entry personnel with training courses/seminars. The regional subcommittees will develop protocols and procedures essential to the development of the trauma network.

DEVELOPING THE REGIONAL TRAUMA NETWORK

As described in Administrative Rule 325.132 Rule 8 (a), the Regional Trauma Network (RTN) will submit an annual report to the Michigan Department of Health & Human Services (MDHHS) that describes the system progress and ongoing development activities, as well as evidence that the Regional Trauma Advisory Council is actively involved in trauma care. The Region 3 Trauma Network Board and Region 3 Trauma Advisory Council are active and meeting quarterly to work on trauma system development.

This annual report will address the following trauma system components identified in Administrative Rule 325.127 (j): leadership; public information & prevention; human resources; communications; medical direction; triage; transport; trauma care facilities; inter-facility transfers; rehabilitation; and evaluation of patient care within the system that are outlined in the Region 3 trauma system plan.

EPIDEMIOLOGY

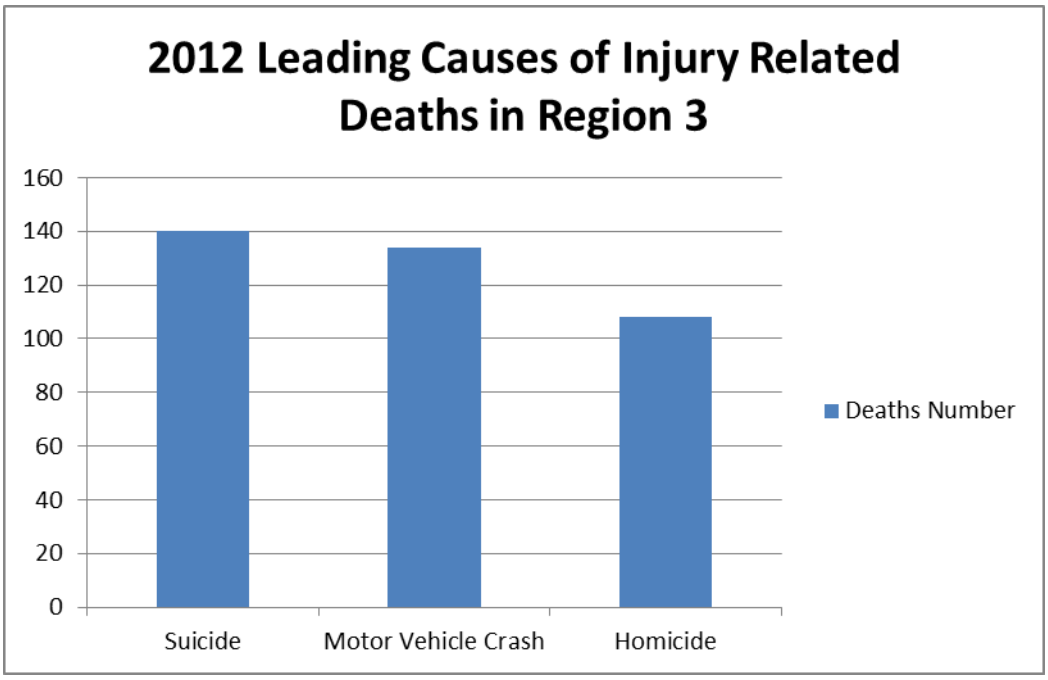
The three leading causes of death in Region 3 have changed slightly since 2011. The 2012 data shows suicide as the leading cause of death in Region 3, followed by motor vehicle crashes and homicides respectively (see Figures 1 & 2). The leading cause of hospitalization in Region 3 remains unchanged from 2011 to 2012 with unintentional falls remaining number one, followed by motor vehicle crashes and assaults respectively (see Figure 3).

Leading Causes of Death & Hospitalization in Region 3
Figure 1

Region 3			
Deaths		Hospitalizations	
Cause	Number	Cause	Number
Suicide	140	Unintentional Fall	3,043
Motor Vehicle Crash	134	Motor Vehicle Crash	875
Homicide	108	Assault	429

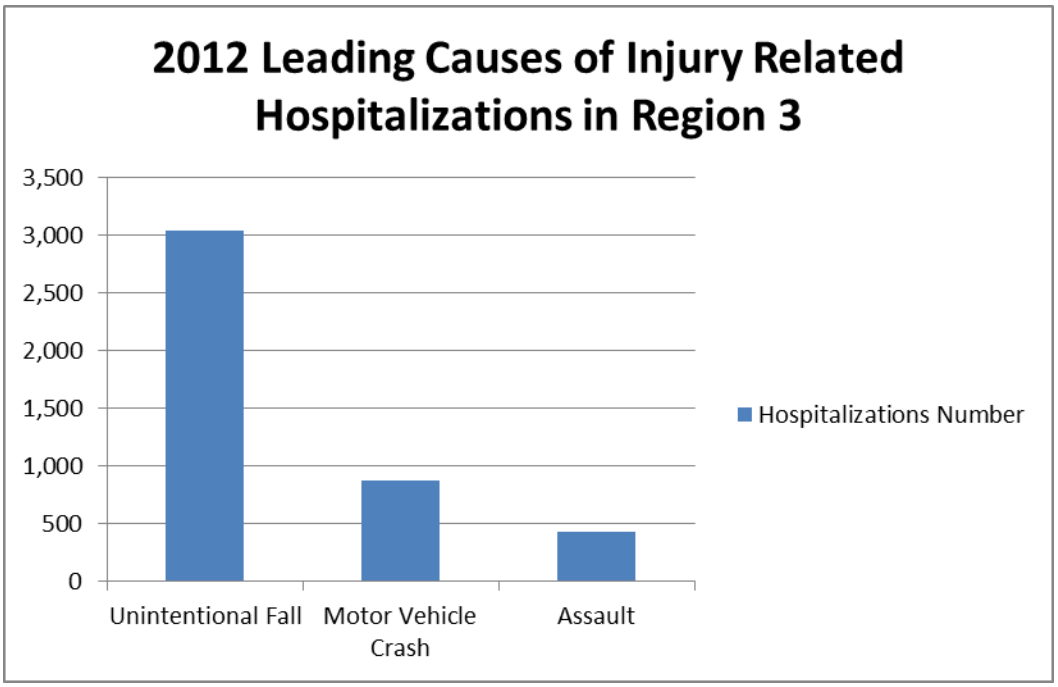
Source: Thomas W. Largo, MPH, Division of Environmental Health, Bureau of Disease Control, Prevention, and Epidemiology, Michigan Department of Health & Human Services, 2012 data.

Figure 2



Source: Thomas W. Largo, MPH, Division of Environmental Health, Bureau of Disease Control, Prevention, and Epidemiology, Michigan Department of Health & Human Services, 2012 data.

Figure 3



Source: Thomas W. Largo, MPH, Division of Environmental Health, Bureau of Disease Control, Prevention, and Epidemiology, Michigan Department of Health & Human Services, 2012 data.

THE REGIONAL WORK PLAN

The Region 3 work plan is utilized as the tool for guiding and measuring progress toward the development and operationalization of the regional trauma system. All eight Michigan trauma regions developed work plans, organized utilizing the benchmarks of overarching goals, expectations, and outcomes.

The plan is broken down into SMART objectives aimed at improving the region's rating against the Health Resources and Services Administration (HRSA) Model Trauma System Matrix. Current planning efforts are focusing on developing baseline activities for the new trauma system.

Each of the following eleven subsections corresponds with the eleven work plan components. The subsection begins with the 2006 HRSA *Model Trauma System Planning and Evaluation* indicator, followed by progress toward that indicator during FY 2014 ("Achievements"), and concluding with objectives for 2015 ("2015 FOCUS").

SYSTEM GOVERNANCE

Each region shall establish a regional trauma network. All MCAs within a region must participate in a regional network, and life support agencies shall be offered membership on the regional trauma advisory council. RTACs shall maximize the inclusion of their constituents. The RTN establishes a process to assess, develop, and evaluate the trauma system in cooperation with the regional stakeholders in trauma care.

ACHIEVEMENTS

- Designated by MDHHS as a Regional Trauma Network.
- The RTN elected/appointed chairpersons for: Regional Trauma Network Board, Regional Trauma Steering Committee, Regional Professional Standards and Review Organization, and the Regional Trauma Advisory Council as defined in the Region 3 bylaws.
- The RTN appointed an RTAC in accordance with the Region 3 bylaws, and includes, at a minimum, representatives from the following disciplines:
    - Medical Control Authorities
    - Life Support Agencies
    - Hospitals
    - EMS Physicians
    - Trauma Surgeons
    - Trauma Program Managers
    - EMS personnel
    - Nurses
    - Consumers
- Each member on the RTN provided a signed letter of designee representation from their MCA that is on file with the secretary.

2015 FOCUS

Continue working towards the development of the overall Region 3 trauma system through the cooperation and collaboration of Region 3 trauma system stakeholders.

INJURY PREVENTION

The RTN, in cooperation with other agencies and organizations, uses analytical tools to monitor the performance of population-based (regional) injury prevention programs.

ACHIEVEMENTS

Region 3 established the Injury Prevention Subcommittee which met in December of 2014.

2015 FOCUS

- The Injury Prevention Subcommittee will conduct a regional inventory survey to determine the number and type of injury prevention programs currently offered within Region 3. The target date for completion of the inventory survey will be March 1, 2015.
- The Region 3 Trauma Network will conduct a regional needs assessment based on data received from the inventory survey. The needs assessment will be completed by September 30, 2015.
- The RTAC will appoint a data review committee, to include representatives from all Region 3 verified trauma centers, to review regional data on the top five Mechanisms of Injury (MOI) by September, 2015.

CITIZEN ACCESS TO THE SYSTEM

The trauma system is supported by EMS medical oversight of dispatch procedures and coordinated response resources. The trauma system EMS medical directors are actively involved with the development, implementation, and ongoing evaluation of EMS system dispatch protocols to ensure they are congruent with the trauma system design. These protocols include, but are not limited to, which resources to dispatch (Advanced Life Support vs. Basic Life Support), air-ground coordination, early notification of the trauma facility, pre-arrival instructions, and other procedures necessary to ensure dispatched resources are consistent with the needs of injured patients. There are sufficient, well-coordinated air and ground ambulance resources to ensure EMS providers arrive at the trauma scene to promptly and expeditiously transport the patient to the correct hospital by the correct transportation mode.

ACHIEVEMENTS

Each MCA has a priority dispatch system in place that sends appropriate transportation resources to the scene of a trauma injury.

2015 FOCUS

- The RTN will convene a subcommittee to meet with Region 3 Central Dispatch Directors to begin dialogue regarding a regionalized trauma dispatch protocol. This objective should be completed by September 30, 2015.
- The assigned subcommittee will develop a regionalized trauma dispatch protocol for Advanced Life Support vs. Basic Life Support, air-ground coordination, early notification of the trauma facility and pre-arrival instructions, and other procedures necessary to ensure dispatched resources are consistent with the needs of injured patients. This protocol will be completed and provided to the RTAC/RTN for review by September 30, 2016.
- The RTAC will convene a committee of Region 3 representatives and regional 911 Directors charged with the task of developing a regional trauma dispatch protocol that will outline procedures to ensure appropriate level providers are sent to the scene of the trauma, by September 30, 2017.

TRAUMA SYSTEM COMMUNICATIONS

The regional trauma system is supported by a coordinated communication system linking and integrating hospitals, life support agencies, the EMS system, and the Regional Trauma Network. There are established procedures for EMS and trauma system communication for major EMS events and multiple jurisdiction incidents that are effectively coordinated with the overall regional response plans. There is a

procedure for communication among medical facilities when arranging for inter-facility transfers including contingencies for radio or telephone system failure.

ACHIEVEMENTS

The RTAC has assigned the task of developing a needs assessment on regional communication interoperability to the Triage, Transport and Destination Subcommittee.

2015 FOCUS

The Region 3 trauma network will develop a needs assessment to determine the current state of regional communication interoperability of all EMS agencies and hospitals by September 30, 2015.

MEDICAL OVERSIGHT

The regional trauma system is supported by active EMS medical oversight of trauma communications, pre-hospital triage, treatment, and transport protocols. There is well defined regional trauma system medical oversight integrating the specialty needs of the trauma system and the medical oversight of the overall EMS system. There is a clearly defined, cooperative, and ongoing relationship between regional trauma physician leaders and the EMS system medical directors in the region.

ACHIEVEMENTS

The Region 3 trauma network appointed a Regional Trauma Steering Committee consisting of Trauma Medical Directors, Trauma Surgeons, MCA Medical Directors and Emergency Department Physicians, that is scheduled to meet quarterly to review and adopt state approved regional trauma protocols in their capacity as medical oversight.

2015 FOCUS

- By September 30, 2015, the Region 3 trauma network EMS and Trauma Medical Directors will have established regional trauma protocols for pre-hospital provider treatment and care of trauma patients, and a system for evaluation of the effectiveness of on-line and off-line medical control
- During the 2015 and 2016 application period, the RTN, with the cooperation of the regional medical oversight committee, will evaluate the effectiveness of the system and work together to implement any improvements that are necessary to optimize the efficiency of patient care and transport.

PRE-HOSPITAL TRIAGE CRITERIA

The regional trauma system is supported by system-wide pre-hospital triage criteria. The region has adopted mandatory regional pre-hospital triage protocols to ensure trauma patients are transported to an appropriate trauma center based on their injuries. The triage protocols are regularly evaluated and updated to ensure acceptable and region-defined rates of over and under triage for appropriate identification of a major trauma patient.

ACHIEVEMENTS

The Region 3 Triage, Transport and Destination Subcommittee has worked diligently over several months in 2014 to develop a trauma triage protocol. They completed a draft protocol that will be sent to the RTAC for approval at the January 27, 2015 meeting.

2015 FOCUS

The Region 3 Trauma Network will develop a pre-hospital trauma triage, transport and destination protocol using current, evidence-based trauma triage criteria that will be adopted by the region's local MCAs. Region 3 will utilize the Center for Disease Control (CDC) "Pre-hospital Trauma Treatment Decision Scheme" as a template. The goal is to have the trauma triage protocol in place by September 30, 2015.

TRAUMA DIVERSION POLICIES

Diversion policies ensure that acute care facilities are integrated into an efficient system to provide optimal care for all injured patients. The regional trauma network plan should ensure that the number, levels, and distribution of trauma facilities are communicated to all partners and stakeholders. The RTN should develop procedures to insure that trauma patients are transported to an appropriate facility that is prepared to provide care. The state trauma registry is used to identify and evaluate regional trauma care and improve the allocation of resources.

ACHIEVEMENTS

The development of trauma diversion procedures has been discussed by the RTAC and will be a project for the Triage, Transport, and Destination Subcommittee in 2015.

2015 FOCUS

- The Region 3 trauma network will identify the number, levels, and distribution of trauma facilities. This information will be communicated to all partners and stakeholders by September 30, 2015.
- By September 30, 2015, state verified/designated Region 3 Trauma Centers will begin submitting required trauma data to the National Trauma Data Bank annually, and the state trauma registry on a quarterly basis.

TRAUMA BYPASS PROTOCOLS

The roles, resources and responsibilities of trauma care facilities are integrated into a resource efficient, inclusive network that meets standards, and provides optimal care for injured patients. The regional trauma plan has clearly defined roles, resources, and responsibilities for all acute care facilities treating trauma, and for facilities that provide care to specialty populations (spinal cord injury, burns, pediatrics, other). There is a regional trauma bypass protocol that provides EMS guidance for bypassing a trauma care facility for another more appropriate trauma care facility.

ACHIEVEMENTS

There has been discussion within the RTAC regarding the development of a trauma bypass protocol. This project is also an undertaking of the Trauma Triage, Transport and Destination Subcommittee for calendar year 2015.

2015 FOCUS

By September 30, 2015 the Region 3 trauma network protocol committee will draft a regional trauma bypass protocol to provide pre-hospital guidance about when pre- hospital providers should bypass an acute care facility for a more appropriate facility.

REGIONAL TRAUMA TREATMENT GUIDELINES

The regional trauma network ensures optimal patient care through the development of regional trauma treatment guidelines. When injured patients arrive at a medical facility that cannot provide the appropriate level of definitive care, there is an organized and regularly monitored system to ensure that the patients are *expeditiously transferred* to the appropriate, system-defined trauma facility. Collected data from a variety of sources is used to review the appropriateness of all-inclusive regional trauma performance standards, from injury prevention through rehabilitation.

ACHIEVEMENTS

There has been discussion, but no formal regional trauma treatment guidelines have been created as of December, 2014.

2015 FOCUS

- By September 30, 2015, the RTN, RTAC, and the Triage, Transport, and Destination Subcommittee will establish a regional bypass protocol to guide the EMS providers operating in the region with specific criteria addressing the bypass of a facility for a more appropriate level of trauma care facility
- By September 30, 2015, the RTN will have written, quantifiable regional system performance standards or performance improvement processes. These will be reviewed and approved by the RTN by September 2016

REGIONAL QUALITY IMPROVEMENT PLANS

The RTN/RTAC uses system data to evaluate system performance, and regularly reviews system performance reports to develop regional policy. No less than once per year, the RTN generates data reports that are disseminated to all trauma system stakeholders to evaluate and improve system performance.

ACHIEVEMENTS

The majority of the Region 3 hospitals have executed data use agreements, and started the process of submitting data to the state trauma registry (software by ImageTrend) as of the end of calendar year 2014.

2015/2016 FOCUS

- Once data use agreement are in place and approved, and six months of data has been submitted, regional quality goals will be developed by September 30, 2016.
- By November 2016, the Region 3 trauma network will begin utilizing the ImageTrend trauma registry software for collecting data on Region 3 trauma cases, and for the evaluation and analysis of system performance for the purpose of improving the regional trauma system.
- By September 30, 2016, the Region 3 trauma coordinator, in cooperation with the RPSRO, will provide a trauma data report to the Region 3 stakeholders for evaluation and improvement of trauma system performance.

TRAUMA EDUCATION

The regional trauma network ensures a competent workforce through trauma education standards. The regional trauma network establishes and ensures that appropriate levels of EMS, nursing, and physician trauma training courses are provided on a regular basis.

ACHIEVEMENTS

The Trauma Education Subcommittee was organized and held their first meeting in October of 2014. The committee has a focus on developing a trauma education needs assessment to determine what training programs exist in the region, and where they are located.

2015 FOCUS

- The RTN will conduct a regional inventory of available trauma education programs (e.g. Pre-Hospital Trauma Life Support, International Trauma Life Support, Advanced Trauma Life Support, Trauma Nursing Core Courses, or Emergency Nursing Pediatric Courses), along with the creation of a mechanism to share this information with regional stakeholders. This objective will be completed by June 30, 2015.
- By September 30, 2015, the Region 3 trauma network will have an approved process to inform and educate all personnel on new protocols and treatment modalities in Region 3.

BEST PRACTICES / SUCCESSES

The Region 3 trauma network continues to be a work in progress for all Region 3 counties, Medical Control Authorities, Medical Centers, and EMS agencies. The regional stakeholders have been active over the past year working together to bring the system to life. Many hours have been dedicated to the development of the Region 3 Trauma Network with the support and generosity of the organizations and individual stakeholders.

The most visible accomplishment within the region is the gathering of the many players from many different areas to collaborate on the development of a system that will vastly benefit the injured patient. The stakeholders have produced a set of regional bylaws that govern the Region 3 trauma network. The regional boards and committees have been established and are active. Policies, procedures and protocols are in the developmental stages, and injury prevention and trauma education surveys are being created. The Region 3 trauma network has done an excellent job over the past twelve months.

SUMMARY

The goal of each trauma network and advisory committee is to implement an “all-inclusive” trauma system in the region. This system will allow for the care of all injured patients in an integrated system of health care in both the pre-hospital and healthcare facility environments, and will include personnel that are well trained and equipped to care for any injury severity. Each healthcare facility can participate in the system to the extent, or level, that it is willing to commit the resources necessary for the appropriate management of the trauma patients. This will ensure that all trauma patients are served by a system of coordinated care, based on the degree of injury and level of care required.

The Region 3 Annual Report provides the partners and stakeholders in trauma care an update on the development progress of the Region 3 trauma network. It is expected that this report will continue to evolve as the regional trauma system develops and matures.